



# MODEL WDR-4 4" WIND-DRIVEN RAIN RESISTANT SIGHTPROOF EXTRUDED STATIONARY LOUVER



## Standard Construction:

- Frame:** 4" x .081" (102 mm x 2 mm) 6063-T5 Extruded Aluminum
- Blades:** Sightproof .07" (1.8 mm) 6063-T5 Extruded Aluminum
- Blade Angle:** 55°
- Screen:** Bird screen - 3/4" x .050 (19 mm x 1.27 mm) flattened expanded aluminum in a removable frame on interior of louver.
- Finish:** Mill Aluminum

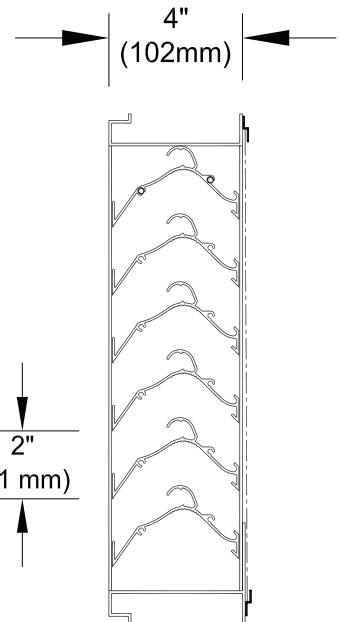
## Options:

- Screens:** Insect screen - 18 x 16 mesh aluminum  
1/2" x .063 (12.7 mm x 1.6 mm) aluminum
- Finish:** Prime Coat  
Baked Enamel  
Kynar 500 Enamel  
Clear Anodize - 204-R1 and 215-R1  
Integral Color Anodize

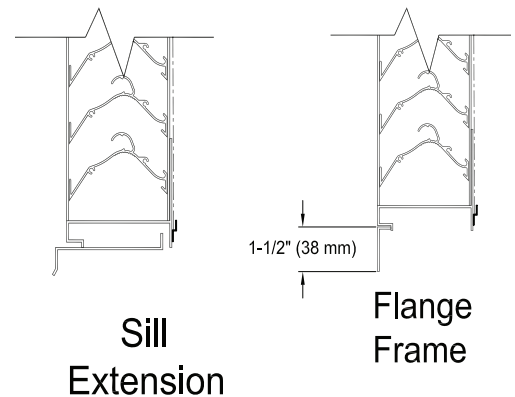
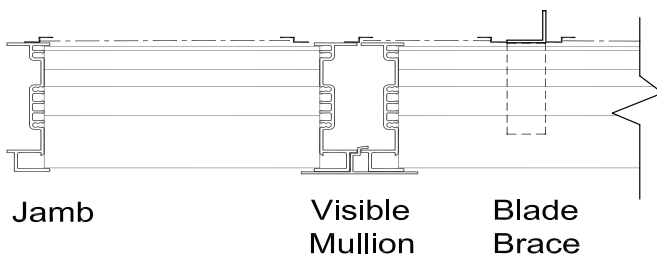
## Sill Extensions:

- Flange Frame:** 1-1/2" (38 mm) Front or Rear
- Minimum Size:** 8"w x 12"h (203 mm x 305 mm)
- Maximum Size:** 96"w x 96"h (2438 mm x 2438 mm)

**Note:** Louvers fabricated 1/4" (6.4mm) under opening size unless otherwise noted.



Channel Frame



Specifications

Furnish and install where shown model **WDR-4** louver, manufactured by **NCA Manufacturing**. Louvers shall be the AMCA Licensed for Wind Driven Rain at 29.1 and 50 mph. Frames shall be .081 inches thick 6063-T5 extruded aluminum alloy. Blades shall be sight proof, 55° angle, and .07 inches thick 6063-T5 aluminum alloy. Screens shall consist of 1/2" expanded aluminum, with an aluminum frame, mounted to the louver interior, and be removable for cleaning. Louvers shall be finished with Polyurethane Acrylic enamel, Kynar 500, Powder Coat, Anodized or other finishes selected by the architect from NCA standard color charts.

Specifications are correct at time of printing. However, as part of our 'continuous improvement program,' we reserve the right to make further improvements without notice.

Project:

Contractor:

Location:

Address:

Architect:

P.O. Number:

Engineer:

Date:



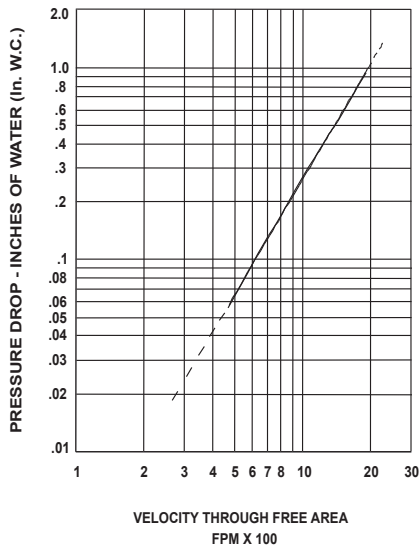
# MODEL WDR-4 PERFORMANCE DATA

## 4" WIND-DRIVEN RAIN RESISTANT SIGHTPROOF EXTRUDED STATIONARY LOUVER

### WDR-4 FREE AREA IN SQ. FT.

		Width - Inches															
		8	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
Height - Inches	12	0.13	0.22	0.35	0.48	0.62	0.75	0.89	1.02	1.16	1.29	1.42	1.56	1.69	1.83	1.96	2.10
	18	0.25	0.43	0.70	0.97	1.24	1.51	1.77	2.04	2.31	2.58	2.85	3.12	3.39	3.66	3.92	4.19
	24	0.38	0.65	1.05	1.45	1.86	2.26	2.66	3.07	3.47	3.87	4.27	4.68	5.08	5.48	5.89	6.29
	30	0.50	0.86	1.40	1.94	2.47	3.01	3.55	4.09	4.62	5.16	5.70	6.24	6.77	7.31	7.85	8.39
	36	0.63	1.08	1.75	2.42	3.09	3.77	4.44	5.11	5.78	6.45	7.12	7.80	8.47	9.14	9.81	10.48
	42	0.76	1.29	2.10	2.91	3.71	4.52	5.32	6.13	6.94	7.74	8.55	9.36	10.16	10.97	11.77	12.58
	48	0.91	1.55	2.52	3.48	4.45	5.42	6.38	7.35	8.32	9.28	10.25	11.22	12.18	13.15	14.12	15.08
	54	1.01	1.72	2.80	3.87	4.95	6.02	7.10	8.17	9.25	10.32	11.40	12.47	13.55	14.62	15.70	16.77
	60	1.13	1.94	3.15	4.36	5.57	6.78	7.99	9.20	10.41	11.62	12.82	14.03	15.24	16.45	17.66	18.87
	66	1.26	2.16	3.50	4.84	6.19	7.53	8.87	10.22	11.56	12.91	14.25	15.59	16.94	18.28	19.62	20.97
	72	1.39	2.37	3.85	5.33	6.81	8.28	9.76	11.24	12.72	14.20	15.67	17.15	18.63	20.11	21.59	23.06
	78	1.51	2.59	4.20	5.81	7.42	9.04	10.65	12.26	13.87	15.49	17.10	18.71	20.32	21.94	23.55	25.16
	84	1.64	2.80	4.55	6.30	8.04	9.79	11.54	13.28	15.03	16.78	18.52	20.27	22.02	23.76	25.51	27.26
	90	1.76	3.02	4.90	6.78	8.66	10.54	12.42	14.31	16.19	18.07	19.95	21.83	23.71	25.59	27.47	29.36
96	1.89	3.23	5.25	7.26	9.28	11.30	13.31	15.33	17.34	19.36	21.37	23.39	25.41	27.42	29.44	31.45	

### PRESSURE DROP INTAKE



### Wind Driven Rain Performance at 29 mph, 3 in/hr Rate

Wind Velocity of 29 mph (13 m/s) at a Rainfall Rate of 3 in/hr (76 mm/hr) when tested per AMCA 500-L, Figure 5.11 Setup performance. Louver test size is 41.63" (1.06m) x 41.13" (1.04m) with a core size of 39.3" (1 m) x 39.3" (1m). The test louver free area is 5.29 Sq.Ft (.49 sq. m). The Discharge Loss Coefficient Class Intake is 3.

Core Velocity fpm (m/s)	Airflow cfm (m³/min)	Free Area Velocity fpm (m/s)	Effectiveness Ratio	AMCA Effectiveness Class
0 (0)	0 (0)	0 (0)	100	A
110 (0.5)	1184 (34)	224 (1.1)	100	A
178 (1.0)	1916 (62)	362 (1.8)	100	A
293 (1.5)	3154 (88)	596 (3.0)	99.6	A
395 (2.0)	4252 (118)	804 (4.1)	99.2	A
469 (2.5)	5048 (147)	954 (4.8)	98.0	B
595 (3.0)	6405 (182)	1211 (6.2)	97.5	B
675 (3.5)	7266 (206)	1373 (7.0)	92.4	C
762(4.0)	8202 (232)	1551 (7.9)	90.0	C
851(4.5)	9160 (259)	1732 (8.8)	88.3	C

### Wind Driven Rain Performance at 50 mph, 8 in/hr Rate

Wind Velocity of 50 mph (22 m/s) at a Rainfall Rate of 8 in/hr (202.4 mm/hr) when tested per AMCA 500-L, Figure 5.11 Setup performance. Louver test size is 41.63" (1.06m) x 41.13" (1.04m) with a core size of 39.3" (1 m) x 39.3" (1m). The test louver free area is 5.29 Sq.Ft (.49 sq. m). The Discharge Loss Coefficient Class Intake is 3.

Core Velocity fpm (m/s)	Airflow cfm (m³/min)	Free Area Velocity fpm (m/s)	Effectiveness Ratio	AMCA Effectiveness Class
0 (0)	0 (0)	0 (0)	99.5	A
98 (0.5)	1055 (30)	199 (1.0)	99.3	A
197 (1.0)	2121 (60)	401 (2.0)	98.7	B
286 (1.5)	3079 (87)	582 (3.0)	98.6	B
390 (2.0)	4198 (119)	794 (4.0)	98.5	B
472 (2.5)	5081 (144)	960 (4.9)	98.6	B
563 (3.0)	6060 (172)	1146 (5.8)	97.6	B
678 (3.5)	7298 (207)	1380 (7.0)	91.3	C
760(4.0)	8181 (232)	1546 (7.9)	82.5	C

Performance shown is at standard air density, 0.075 lbs./ft.³.

Pressure drop data applies to test unit 48" x 48" only.

The pressure drop and Wind Driven Rain Performance ratings do not include the effects of birdscreen.

Class	Discharge Loss Coefficient
1	0.4 and above
2	0.3 to 0.399
3	0.2 to 0.299
4	0.199 and below

The Discharge Loss Coefficient is calculated per AMCA 511, Appendix C5 using Actual Flow divided by the Theoretical Flow. Core Velocity is the airflow velocity through the Core Area (louver face area less frames) of the louver. Free Area Velocity is the face velocity divided by the louver's free area.



NCA Manufacturing, Inc. certifies that the Model WDR-4 louver shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings program.

The AMCA Certified Seal applies to Air Performance and Wind Driven Rain.